

REMARKS

This responds to the Office Action mailed on August 24, 2004.

By way of this amendment, claims 1, 9, and 17-27 are amended. No claims are canceled or added. As a result, claims 1-58 are now pending in this application.

For the convenience of the Examiner, Applicant's remarks concerning the claims will be presented in the same order in which the Examiner presented them in the Office Action.

Amendments to the Specification

Applicant has inserted a new paragraph on page 13. The new paragraph is virtually identical to original claim 28, and it is to provide support in the Written Description for the phrases "shunt/support device" and "shunt/support member", for which the Examiner asserted support was not found in the specification.

Applicant has also added a sentence to the paragraph beginning at line 7 of page 13, stating that "Individual claims may encompass multiple embodiments of the inventive subject matter."

No new matter has been added by way of these amendments.

Amendments to Claims 1, 9, and 17-27

Claims 1, 9, and 17-27 have been amended. No new matter has been introduced.

In independent claims 1 and 9, the phrase "shunt/mechanical" has been inserted before "connector" (second occurrence). Support for "shunt/mechanical" may be found within these claims.

In claims 17-27, "shunt" has been substituted for "shunt/support device" and for "shunt/support member" (all occurrences). Further, in independent claim 17, the phrase "comprising a shunt/support member disposable" has been deleted.

In claim 18, the word "comprising" and the word "post" have been added.

In claim 19, the word "disposable" has also been deleted.

The amendments to the claims are made to satisfy Applicant's preferences, not necessarily to satisfy any legal requirement(s) of the patent laws, and they are not intended to limit the scope of equivalents to which any claim element may be entitled.

Objection to Claims 1-42

Claims 1-42 were objected to. The Examiner asserted that the phrases "shunt/mechanical connector," "shunt/support device," and "shunt/support member" were not found in the specification.

Applicant respectfully traverses this objection.

The phrase "shunt/mechanical connector" occurs several times within Applicant's original written description, e.g. on page 11, lines 22, 24, and 25; page 12, lines 5 (two occurrences), 12, 14, and 19; and within original claims 1-9 and 13-14.

The phrases "shunt/support device" occurs, for example, in Applicant's original claims 17-27, 28, and 35

The phrase "shunt/support member" occurs, for example, in Applicant's original claims 17-20, 23, 27-31, 34, and 38.

As stated earlier, the substance of original claim 28 has been added to page 13 of the Written Description to provide support in the Written Description for the phrases "shunt/support device" and "shunt/support member", for which the Examiner asserted support was not found in the specification.

The Examiner further asserted that the terms "shunt/mechanical connector", "shunt/support device", and "shunt/support member" appear to offer alternatives. However, as used in Applicant's original disclosure, these terms are not intended to offer alternatives but rather a combination. That is, the two words on either side of "/" are both intended to be operative within Applicant's claims, as if they were connected by the word "and". The Examiner is referred to the second definition of "/" Slash in Merriam-Webster's Collegiate Dictionary, Eleventh Edition, page 1609, a copy of which page is submitted herewith:

2. Replaces the word *to* or *and* in some compound terms and ranges.

For the above reasons, Applicant respectfully requests that the Examiner's objection to claims 1-42 be withdrawn.

Rejection of Claims 1-4, 6-12, 14-17, 19-26, 28, 30-37, 43, 47, 49-52, and 58 under 35 U.S.C. §102(e) as Anticipated by Frutschy et al.

Claims 1-4, 6-12, 14-17, 19-26, 28, 30-37, 43, 47, 49-52, and 58 were rejected under 35 U.S.C. §102(e) as being anticipated by Frutschy et al. (U.S. 6,586,684).

Submitted herewith is a "Declaration under 37 CFR §1.131", which swears behind Frutschy.

The inventor of the present application, Yuan-Liang Li, was also a co-inventor of the inventive subject matter of U.S. Pat. No. 6,388,207. (This patent, which was asserted against the claims of the present application in the Office Actions of January 15, 2003 and June 11, 2003, was indicated by the Examiner in the Office Action of March 15, 2004 as having been removed by Applicant's "Declaration under 37 CFR §1.132" filed on October 14, 2003.)

The inventive subject matter of U.S. Pat. No. 6,388,207 was constructively reduced to practice as of its filing date of December 29, 2000, which is prior to the June 29, 2001 filing date of Frutschy.

U.S. Pat. No. 6,388,207 contains adequate disclosure to support the inventive subject matter currently claimed by the present application, as will be explained in greater detail immediately below with reference to independent claim 1 of the present application.

- i. U.S. Pat. No. 6,388,207 discloses "two discrete electrical components" as currently recited in claim 1 of the present application. Referring to FIG. 3 of U.S. Pat. No. 6,388,207, for example, one "discrete electrical component" is substrate 60, and the other is packaging structure 68 (which in an embodiment may be PCB 152 in FIG. 6). These components are "mountable together via a grid array" (see FIG. 6 and col. 9, lines 7-27).
- ii. U.S. Pat. No. 6,388,207 also discloses a "shunt/mechanical connector disposable to directly contact" the two discrete electrical components. For example, FIG. 3 of U.S. Pat. No. 6,388,207 shows substrate 60 mountable with packaging structure 68 by way of trenches 66. A trench, as defined within U.S. Pat. No.

6,388,207, means a conductive plane or member, other than a via, partially or entirely extending through a substrate (typically, but not necessarily perpendicular to the upper and lower surfaces of a substrate), or being formed on an exterior sidewall of the substrate (see col. 4, lines 60-65). In U.S. Pat. No. 6,388,207, trenches 66 “provide mechanical support” and “provide a shunt electrical conduction path for predetermined electrical current between the electrical components such that the predetermined electrical current does not pass through grid array connectors of the grid array”.

- iii. At least part of the “shunt/mechanical connector” is to “extend within one of the electrical components so as to provide the shunt electrical path”. Regarding FIGS. 2-3 of U.S. Pat. No. 6,388,207, trenches 61 and 62 are formed on the exterior sidewalls of substrate 60 and may be coupled with corresponding conductors of a socket structure, such as socket conductors 66 on packaging structure 68 (see col. 4, line 65 through col. 5, line 43).

In i-iii above, U.S. Pat. No. 6,388,207 is asserted to provide support for current independent claim 1 of the present application. U.S. Pat. No. 6,388,207 is also asserted to contain adequate disclosure to support the inventive subject matter currently claimed by the other claims of the present application that were rejected as being anticipated by Frutschy, namely claims 2-4, 6-12, 14-17, 19-26, 28, 30-37, 43, 47, 49-52, and 58

In view of the “Declaration under 37 CFR §1.131”, Applicant respectfully submits that the rejection is now moot and should be withdrawn, and that claims 1-4, 6-12, 14-17, 19-26, 28, 30-37, 43, 47, 49-52, and 58 are allowable.

**Rejection of Claims 1-22, 24-33, 35-43, 47, 51, and 57
under 35 U.S.C. §102(e) as Anticipated by Li et al.**

Claims 1-22, 24-33, 35-43, 47, 51, and 57 were also rejected under 35 U.S.C. §102(e) as being anticipated by Li et al. (U.S. 6,495,770).

Applicant respectfully asserts that the §102(e) rejection of claims 1-22, 24-33, 35-43, 47, 51, and 57 as anticipated by Li et al. is inappropriate, because the subject matter disclosed in Li et al. does not represent the invention “by another”, as required by §102(e).

Submitted herewith is a "Declaration under 37 CFR §1.132" executed by the inventor of the present application, declaring that he conceived the inventive subject matter disclosed in the Li et al. patent.

The Examiner stated in the Office Action that the rejection under 35 U.S.C. §102(e) might be overcome by a showing under 37 CFR §1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another".

In view of the "Declaration under 37 CFR §1.132", Applicant respectfully submits that the rejection is now moot and should be withdrawn.

Rejection of Claim 56 under 35 U.S.C. §103(a)
as Unpatentable over Li et al.

Claim 56 was rejected under 35 U.S.C. §103(a) as being unpatentable over Li et al.

Applicant respectfully asserts that the §103(a) rejection of claim 56 as anticipated by Li et al. is inappropriate, because the subject matter disclosed in Li et al. does not represent the invention "by another".

Submitted herewith is a "Declaration under 37 CFR §1.132" executed by the inventor of the present application, declaring that he conceived the inventive subject matter disclosed in the Li et al. patent.

The Examiner stated in the Office Action that the rejection under 35 U.S.C. §103(a) might be overcome by a showing under 37 CFR §1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another".

In view of the "Declaration under 37 CFR §1.132", Applicant respectfully submits that the rejection is now moot and should be withdrawn.

Allowable Subject Matter

Applicant notes with appreciation that claims 44-46, 48, and 53-55 were objected to as being dependent upon a rejected base claim, but they were indicated to be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

In view of Applicant's preceding remarks concerning the asserted patentability of independent claim 43, Applicant does not wish to rewrite claims 44-46, 48, and 53-55 in independent form at this time, but Applicant respectfully reserves the right to do so at a later time.

Conclusion

Applicant respectfully submits that claims 1-58 are in condition for allowance, and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney, Walter W. Nielsen (located in Phoenix, Arizona) at (602) 298-8920, or the below-signed attorney (located in Minneapolis, Minnesota) to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

Respectfully submitted,

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By his Representatives,

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Date

February 24, 2005

By

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CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: MS Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this 24th day of February, 2005.

Name

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Signature

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